

Botulism Caused Fish & Waterbird Mortality In New York Waters of Lakes Erie & Ontario - 2003

Prepared by
David Adams & Kenneth Roblee & Ward Stone – NYS DEC
Presented by
Kenneth Roblee -NYS DEC Region 9

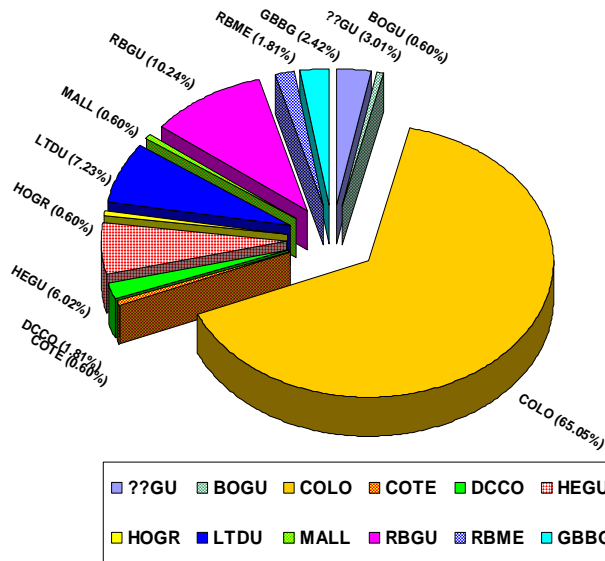
May 5, 2003 – DEC inspection of the Bethlehem Steel ring-billed gull colony shows no evidence of botulism mortality in gulls.

November 4, 2003 – Type E botulism was confirmed in a gull from Dunkirk (Lake Erie) by George Hannett of the NYSDOH.

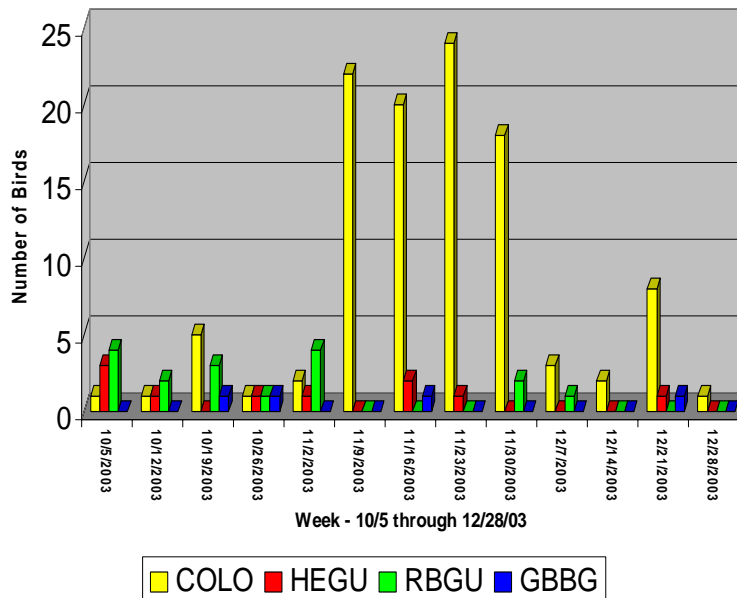
November 10, 2003 – Type E botulism was confirmed in a common loon from Dunkirk, Lake Erie by George Hannett of the NYSDOH.

Species	Predicted Mortality	Upper Limit 95% Confidence	Lower Limit 95% Confidence
Common Loon	1969	2759	1179
Horned Grebe	18	52	0
Double-crested Cormorant	55	129	0
Mallard	18	52	0
Long-tailed Duck	219	502	0
Red-breasted Merganser	55	129	0
Bonaparte's Gull	18	52	0
Ring-billed Gull	292	436	147
Herring Gull	182	285	79
Great Black-backed Gull	73	151	0
Unidentified Gull	91	172	10
Common Tern	18	52	0
Total Birds	3008	4000	2016

Dead & Sick Birds By Species - 2004



Dead & Sick Birds - Species Totals by Week

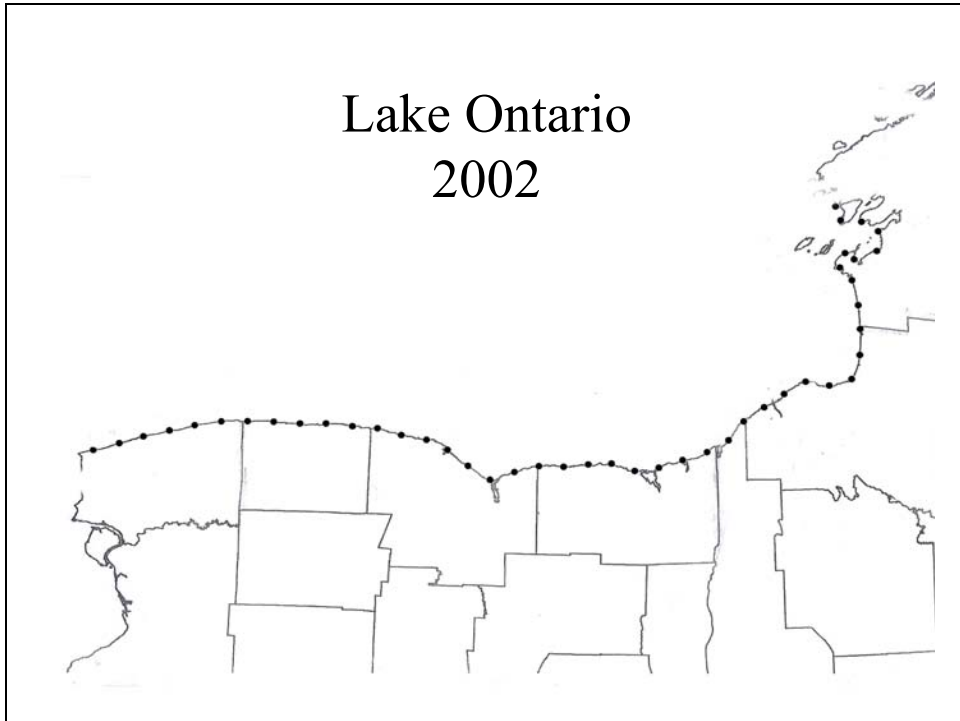


Lake Erie Waterbird Mortality

New York Botulism Transect Survey Results

	2000	2001	2002	2003
Common Loon	583	1149	2042	1969
Horned Grebe	109	0	273	18
Long-tailed Duck	0	310	12616	219
Red-breasted Merganser	2479	91	839	55
Ring-billed Gull	1714	510	273	292
Total Birds	5415	2862	17301	3008

Lake Ontario 2002



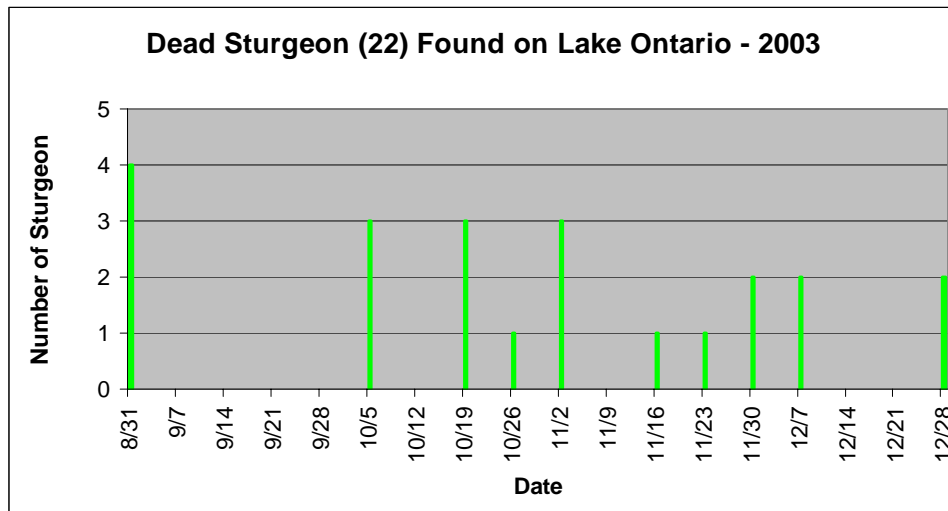
March 23, 2004 – Type E botulism was confirmed by the University of Pennsylvania in a ring-billed gull collected near Youngstown, Lake Ontario, in 2003.

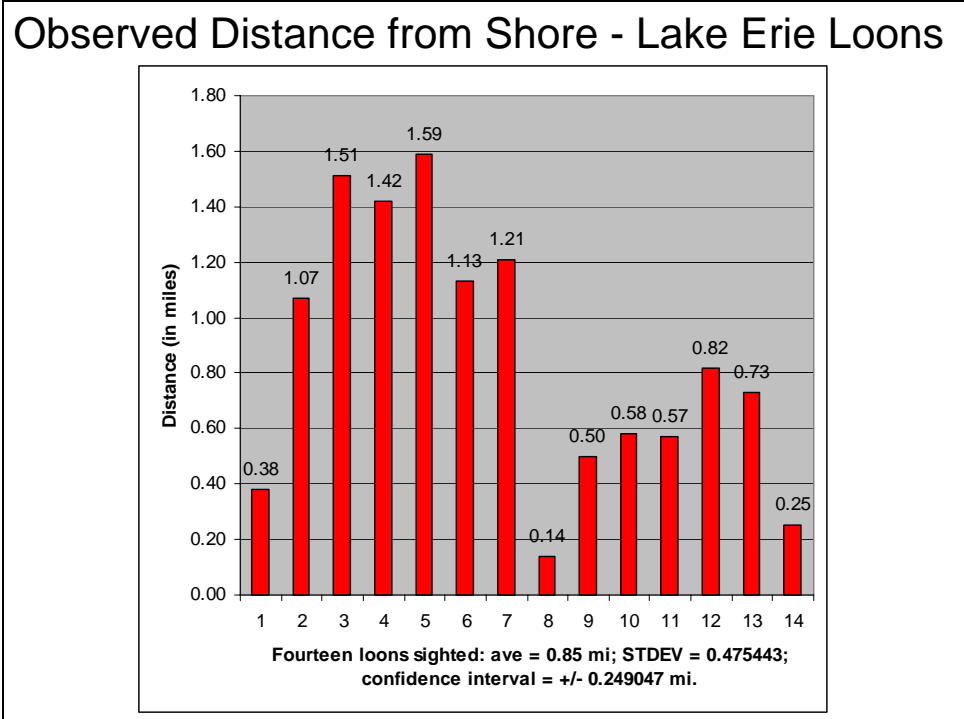
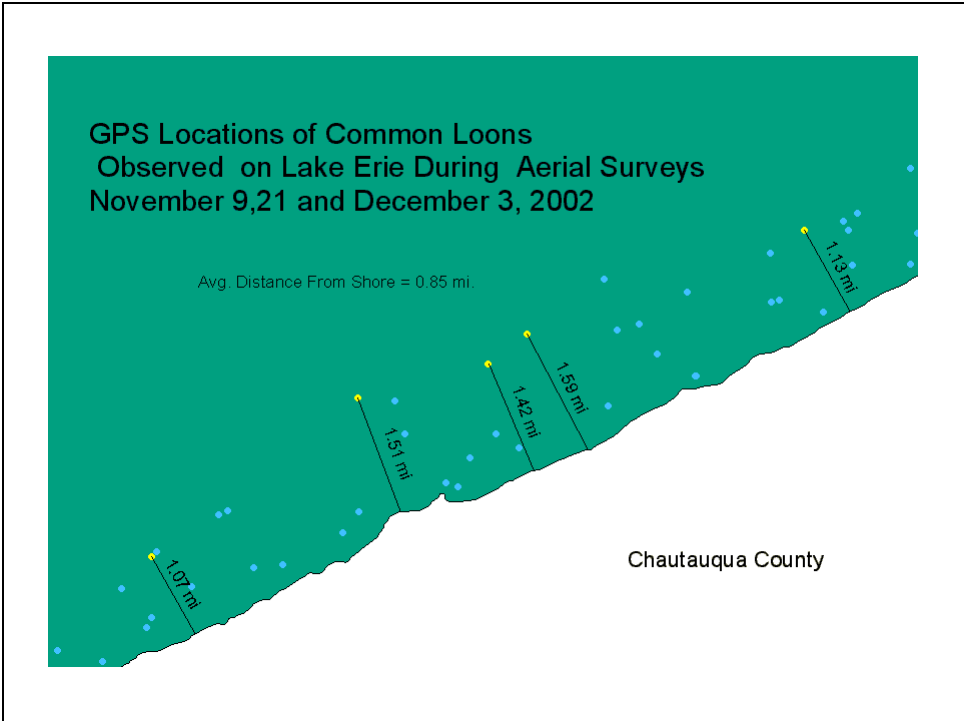
Type E botulism test results for a common loon collected in 2003 from Orleans County, Lake Ontario, are still pending from this Lab.

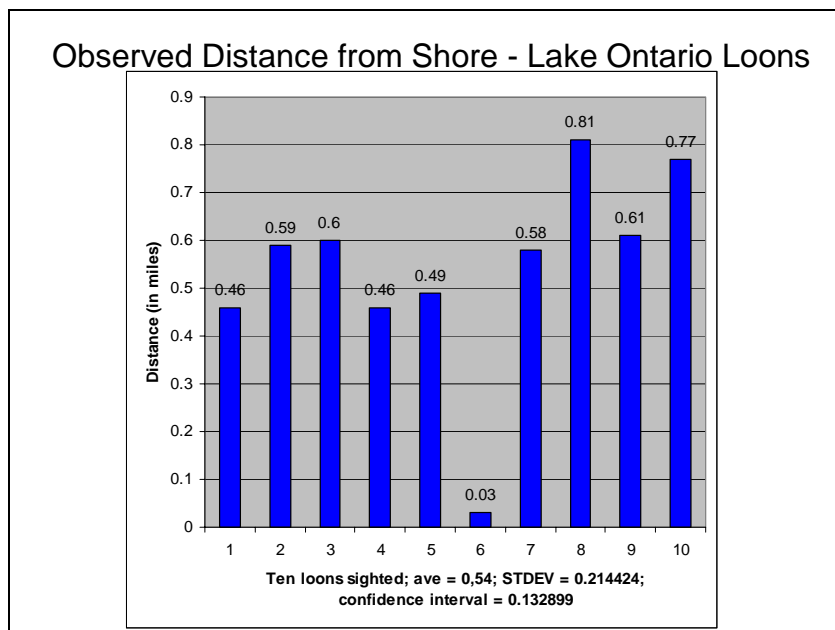
December 12, 2003 – Type E botulism toxin was detected by George Hannett of the NYSDOH in the alimentary canal contents of a lake sturgeon collected at Wilson-Tuscarora State Park, Lake Ontario, on October 27, 2003.

**Table 2: New York Shoreline Lake Ontario
Botulism Mortality Surveys**
100m Transect Survey Results
NYSDEC 10/09/03-12/29/03

Species	Predicted Mortality	Upper Limit 95% Confidence	Lower Limit 95% Confidence
Common Loon	132	238	25
Double-crested Cormorant	66	128	4
Mallard	16	49	0
Red-breasted Merganser	16	49	0
Greater Scaup	33	78	0
Long-tailed Duck	263	525	2
White-winged Scoter	280	487	72
Ring-billed Gull	263	552	0
Herring Gull	164	294	35
Great Black-backed Gull	66	128	4
Unidentified Gull	148	291	5
Common Goldeneye	49	121	0
Red-throated Loon	16	49	0
Total Birds	1529	2438	621







In Summary:

Type E botulism was confirmed in Lake Erie for the fourth consecutive year and in Lake Ontario for the second consecutive year.

In Lake Erie, mortality declined in most waterbird species except for ring-billed gull and common loon.

In Lake Ontario, common and red-throated loon mortality, presumably due to Type E botulism (pending diagnoses), was observed for the first year.

Botulism toxin was available to fish and wildlife during cooler lake temperatures, with many specimens collected during mid to late November and December.

Type E toxin botulism was diagnosed in a Lake Sturgeon from Lake Ontario. Twenty-two dead sturgeon were collected and significant mortality to other fish species was observed along the Niagara County, Lake Ontario shoreline.

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